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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,333	03/15/2002	Jeffrey T. Kernan	10991598-1	1632

7590

07/21/2003

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,333

Applicant(s)

KERNAN ET AL.

Examiner

Phillip A Johnston

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

Detailed Action

Claims Rejection – 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,239,429 to Blessing, in view of Chutjian, U.S. Patent No. 6,049,052

Blessing (429) discloses in Figure 2., a quadrupole mass analyzer (QMA) that includes a single, round, cylindrical, insulating retainer block 101 composed of a high quality dielectric, such as alumina or quartz, with good structural strength, dimensional stability, and good thermal conductivity. The quadrupole mass filter section 100 is made of four non-magnetic, conductive, cylindrical rod electrodes 102 and the retainer block 101. In the preferred embodiment, the rods are composed of a material such as 304 stainless steel or InvarTM. The retainer block 101 has a central axis of symmetry 103 that defines the central axis of the entire QMA. The rods are held in place at

the mid-point of their length on the inner surface of the retainer block in rod receiving channels 104 extending along the inner surface of the retainer block (see FIG. 2c). The channels are located so as to position the rods precisely parallel to each other and equidistant from the central axis of symmetry 103. The retainer block channels are located at 90-degree intervals around the central axis of symmetry so that each channel/rod is precisely equidistant from the two adjacent rods and the locations of the channels/rod ends form a perfect square. The rods are secured to the retainer block 101 by radial fasteners, such as screws 105, which travel through screw channels from the outer surface 132 to the channels 104 formed on the inner surface 133 of the retainer block 101. Radial holes may be formed in the rod electrodes 102 to receive and engage the screws 105, thereby holding the filter rods in place within channels 104. Due to tight tolerances on the diameter of the screw channels 131 and the radial fasteners 105, fastening at the mid-point of the rods causes the rods to be coplanar with each other. See Column 5, line 22-53.

Blessing (429) as applied above does not disclose the use of an electrode that is integrally formed with the holder, as recited in Claims 11, 14, and 17. However, Chutjian (052) discloses a quadrupole mass spectrometer in FIG. 2, including an array of poles 16, with any grouping of four adjacent poles 16 defining a quadrupole channel 17 through which ions travel during use. The quadrupole channel 17 refers to the space defined by any grouping of four poles 16 within areal boundaries defined by a circle that is substantially tangent to each of the four relevant poles 16, as exemplified by the dotted circles shown for two of the quadrupole channels 17 in FIG. 2. Each of

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the poles 16 form an integral structure with a connecting strip 50, which acts as an electrical lead to the respective one of the poles 16. Each of the poles 16, therefore, forms the terminal portion of an integral piece including one of the poles 16 and a corresponding connecting strip 50. See Column 6, line 50-62.

Chutjian (052) also discloses a method of making the array of the poles 16 involves precise selective removal of portions of a work piece, that is initially a single solid sheet of electrically conductive material, to obtain the desired patterned layer for the ion filter 29. It is preferred that all of the poles 16, the connecting strips 50 and the bonding pads 44, 46 be manufactured from the same work piece and that the final patterning be done only when the single work piece is supported by a common substrate, such as the exit spacer 20. The selective removal may be any suitable technique. In this regard, Electrical Discharge Machining (EDM), discussed in detail below, may be employed to selectively remove material from the work piece and thereby obtain acceptable tolerances for poles 16. See Column 13, line 52-65.

Therefore it would have been obvious to one of ordinary skill in the art that the quadrupole apparatus and method of Blessing (429) can be modified to use the method of Chutjian (052) to integrally form the electrodes with the holders to provide a method of making a quadrupole mass spectrometer with precisely positioned electrodes in the conventional quadrupole configuration, that insures very high precision assembly, in virtually all parts.

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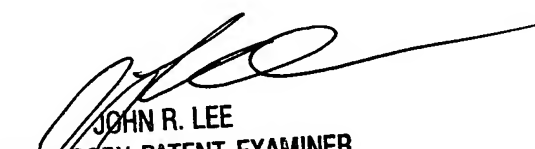
Conclusion

3. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (703) 305-7022. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor John Lee can be reached at (703) 308-4116. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ

June 30, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800